

In order to assist in an understanding of the embodiments described in the present application, Applicant offers the following discussion of the relationship of Figures 6, 8, 12 and 14.

Figure 6 is directed toward a method for performing color characterization of an image, e.g., by determining a distribution of image pixels among color bins, for example, HSI bins.

Figure 8 is directed toward a method for searching for a template image in a target image by searching for color match regions in the target image that match the template image. The method of Figure 8 involves performing the general color characterization analysis of Figure 6 for the template image to determine color match information for the template image, and then attempting to find regions in the target image which match this color match information of the template image.

Figure 12 describes a method for sharing or redistributing pixels among neighboring bins after the color characterization of step 266 of Figure 6 has been performed. Thus, after image pixels have been distributed among color characterization bins in step 266 of Figure 6, the method of Figure 12 involves sharing or redistributing pixels among neighboring bins to compensate for inaccuracies that may have resulted from the original color characterization. This redistribution method of Figure 12 is described beginning at page 37 line 1 and continuing to page 38 line 21. Step 506 of Figure 12 involves re-comparing the percentages in respective bins after the redistribution in step 504 when performing the template image matching of Figure 8.

Figure 14 is directed toward a method for assigning values to color categories for a respective pixel, wherein values may be assigned to multiple color categories or bins for a single pixel. The method of Figure 14 utilizes a fuzzy membership function based on the location of the pixel within the bin to determine a contribution of the pixel to neighboring bins. The method of Figure 14 is preferably performed when the color characterization analysis is being performed, although the method may be performed afterward. Thus, for example, as each pixel is being examined to determine the appropriate color category or bin for the respective pixel, the method may assign information to multiple bins or categories based on some criteria, e.g., where the pixel falls within a respective bin. This method is described beginning at page 38 line 22 and continuing on to page 40 line 8.

Thus, each of Figures 12 and 14 are directed toward a color characterization method (a method of characterizing colors of an image), which comprises, for each respective pixel of at least a subset of pixels in the image, assigning values to a plurality of color categories or bins based on color information of the respective pixel.

Applicant notes that related application Serial No. 09/375,453 titled "System and Method for Color Characterization with Applications in Color Measurement and Color Matching" is directed to and claims subject matter similar to portions of the method of Figures 6 and 12.

Applicant notes that related application Serial No. 09/639,420 titled "System and Method for Locating Color Match Regions in a Target Image" and related application Serial No. 09/638,271 titled "System and Method for Locating Color and Pattern Match Regions in a Target Image" are directed to and claim subject matter similar to portions of the method of Figure 8.

In response to the Restriction requirement, Applicant hereby elects the species of Figure 14 with traverse.

Applicant submits that the claims readable thereon are as follows: Claims 1 – 26, and 32 – 45.

Applicant submits that various of the above claims 1 – 26 and 32 – 45 are also generic with respect to the subject matter of Figure 12. In other words, various of these claims encompass the subject matter of both Figures 12 and 14.

Applicant further submits that claims 27 – 30 are directed toward the subject matter of Figures 8 and 14, and thus should fall within the species of Figure 14.

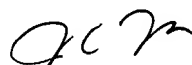
Applicant notes that claim 31 is directed to the subject matter of Figure 6.

After a careful review of the present claims and the Restriction Requirement, Applicant submits that claims 1-30 and 32-45 should remain in the present application. Applicant is willing to cancel claim 31 and pursue this claim in a separate divisional application.

CONCLUSION

The present Response is believed to be a complete response to the issues raised in the office action. A favorable reaction is respectfully requested. If the Examiner has any questions, comments or suggestions, the undersigned attorney earnestly requests a telephone conference.

Respectfully submitted,



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Date: 8/16/2003